

Claims

1. A method for inactivating a microbiological spore including the steps of
subjecting a microbiological spore to an ultra high pressure treatment and absorbing
oxygen from an environment about the spore to at least limit the consumption of oxygen
by the spore.
2. A method according to claim 1 wherein oxygen is absorbed from an
environment about the spore by an oxygen scavenger.
3. A method according to claim 2 wherein the oxygen scavenger is selected
from the group consisting of (i) an oxidisable compound and a transition metal catalyst,
(ii) an ethylenically unsaturated hydrocarbon and a transition metal catalyst, (iii) an
ascorbate, (iv) an isoascorbate, (v) a sulfite, (vi) an ascorbate and a transition metal
catalyst, (vii) a reducible organic compound such as a quinone, a photoreducible dye, or a
carbonyl compound, (viii) a tannin, (ix) biological systems such as enzymes and (x)
rusting of finely divided iron particles.
4. A method according to claim 2 wherein oxygen is absorbed before the
ultra high pressure treatment.
5. A method according to 1 wherein the spore is within or on the surface of a
product.
6. A method according to claim 5 wherein the product has a pH less than 4.6.
7. A method according to claim 6 wherein the environment about the spore is
an atmosphere defined by a package for the product.
8. A method according to claim 7 wherein the package has an oxygen
scavenger.
9. A method according to claim 1 wherein the microbiological spore is
partially germinated.
10. A method according to claim 1 wherein the ultra high pressure treatment is
in the range of 300MPa to 1000MPa.

11. A method according to claim 5 wherein the product is heated before the ultra high pressure treatment.

5 12. A method for producing a packaged food product including the steps of adding a food product to a package and subjecting the food product to an ultra-high pressure treatment, wherein the food product is in an oxygen-scavenging environment either before or after the ultra-high pressure treatment, said ultra-high pressure treatment and said oxygen scavenging environment being selected for inactivation of a microbiological spore in the food product.

10 13. In a process for manufacture of a food product, the steps of subjecting a food to an ultra-high pressure treatment and absorbing oxygen from an environment about the food to provide conditions for limiting the consumption of oxygen by a microbiological spore in the environment.

14. A food product manufactured by the process of claim 13.

15 15. A use of an oxygen scavenger for inactivating a microbiological spore in an ultra-high pressure treatment of a food product.

16. An ultra-high pressure treatment adapted for inactivating a microbiological spore in a food product, the treatment including the step of absorbing oxygen from an environment about the food product to provide conditions for limiting the consumption of oxygen by a microbiological spore in the environment.

20 17. A method for achieving commercial sterility of a product including the steps of subjecting a product to an ultra-high pressure treatment and absorbing oxygen from an environment about the product to provide conditions for limiting the consumption of oxygen by a microbiological spore in the environment.

18. A product produced by the method of claim 17.